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10/757,684

01/14/2004

Michael Patrick Galligan

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EXAMINER

HAILEY, PATRICIA L

ART UNIT

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/757,684
Filing Date: January 14, 2004
Appellant(s): GALLIGAN ET AL.

Scott Servilla
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed January 8, 1997, appealing from the Office action mailed August 10, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

In Appellants' remarks, it is noted that claim 8 may contain a typographical error; the range recited therein "should be 0.01 to about 0.5 g/in²", and that, upon indication of allowance, an amendment will be filed to correct this error. As a note, support for this range is found in Appellants' Specification at page 5, lines 3-5, as noted in Appellants' Summary of Claimed Subject Matter.

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(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

WO 03/050397

MOORE et al.

06-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

Claims 1-7, 9, and 10 remain rejected under 35 U.S.C. 102(a) as being anticipated by WO 03/050397.

The WO document discloses an exhaust manifold (Figures 2 and 3) comprising an inner layer (22), an insulation layer (24), and an outer structural layer (28). There may also be, disposed between the outer layer and the insulation layer, a strain isolation layer (26).

The inner layer is composed of ceramic fibers and non-fibrous ceramic filler material. The ceramic fibers may be aluminosilicate fibers or alumina fibers, and the ceramic filler may be alumina or mullite (aluminosilicate). See paragraphs [0029] and

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[0030] of the WO document, which also discloses that the ceramic fibers can be short (having a length of about 10-1000 micrometers), long, or a mixture thereof (this disclosure is considered to read upon the particle size disclosed in Applicants' **claims 6 and 7**, as the reference teaches alumina fibers).

The insulation layer is also a ceramic layer, and is composed of ceramic fibers and non-fibrous ceramic filler material similarly to the aforementioned inner layer. See paragraph [0032] of the WO document.

The outer layer is preferably made from metal; examples include cast ferrous metal or metal alloy such as steel. See paragraph [0037] of the WO document (considered to read upon the limitation "metal substrate" in **claims 1, 4, and 5**).

A catalyst may be added to the inner layer; the catalyst can be any suitable catalyst material that is conventional or known in the art. See paragraphs [0047] of the WO document (considered to read upon **claims 2 and 3**), as well as paragraphs [0048]-[0050] and [0053], which discloses a catalyst body in addition to that also provided in the inner layer, in which begins the "pollutant and noxious gas abatement process in the manifold..." (considered to read upon the limitation "exhaust gas silencer" in **claims 9 and 10**).

In view of these teachings, the WO document anticipates claims 1-7, 9, and 10.

Allowable Subject Matter

Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

While the WO document discloses an exemplary percentage ranges for the ceramic filler material and ceramic fibers (paragraph [0030], bridging pages 7 and 8 of the WO document), the reference is silent with respect to the amount of silica particles in terms of g/in², as recited in claim 8.

(10) Response to Argument

In response to Appellants' arguments that the WO document does not teach or suggest the claimed invention, the outer structural layer (28) is considered to read upon Appellants' "metal substrate", the inner layer (22) is considered to read upon Appellants' "top layer", and the insulation layer (24) is considered to read upon Appellants' "alumina-silicate coating". Further, because the inner layer comprises ceramic fibers (which may be aluminosilicate fibers or alumina fibers) and non-fibrous ceramic filler material (which may be alumina or mullite), the alumina fibers disclosed in the WO document is considered to also read upon Appellants' "alumina particles".

Although the WO document states properties such as porosity and smoothness with respect to the inner wall surface, Appellants' arguments that the claimed invention

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“provides a roughened surface for a top coating to adhere” are not persuasive, because the claims do not recite a “roughened surface”. In their present form, the claims recite alumina particles and a top layer, both of which are adhered to an alumina-silicate coating. The extent to which either the particles or the layer adhere to said coating to achieve “a roughened surface” is not recited.

The Examiner inadvertently omitted deleting the excerpt of the Final Rejection regarding the limitation “while the coating is still wet on the substrate”. The limitation “alumina particles applied to the coating” is not considered a process limitation, and has been given weight, as stated in the maintained rejection.

With respect to Claims 2 and 3 under appeal, the WO Document teaches the addition of a catalyst to the inner layer, and further discloses exemplary catalysts to be added—such as “catalysts typical of most catalytic converters”. Additionally, the WO document teaches that the “catalyst particles can be provided on the inner wall surface 21 of the finished inner layer 22”. This disclosure is considered to further read upon Appellants’ “top layer”.

Further, because Appellants’ claims do not specifically define or exemplify the “engine exhaust treatment catalyst” and/or “three-way conversion catalyst”, the specific catalysts disclosed in the WO document are considered to read upon these limitations.

With respect to Claims 4 and 5 under appeal, the WO document’s disclosure of “cast ferrous metal”, “ferrous metal”, and “metal alloy such as steel” may encompass “an extremely large genus of metals”, but such an encompassing does not detract the WO document from reading upon Appellants’ claims. For example, “ferrous metal” is

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seen to read upon any metal containing iron—such as an FeCr alloy, as well as “steel”, which is seen to read upon any steel—stainless, Types 316 or 318, carbon etc.

With respect to Claims 6 and 7 under appeal, the WO document teaches that the ceramic fibers (which can be alumina fibers) can be short fibers having a length of about 10-1000 μm . The upper limit of 9 microns is considered read upon by the WO document's disclosure of “about 10”.

Alternatively, the WO document also teaches, in paragraph [0030]:

“Both long and short fibers preferably have a diameter of 0.1-20, preferably 0.15-10, preferably 0.2-5, μm .”

Even though there might be a “slight overlap between the reference and the range recited in claim 6”, this disclosure regarding the diameters of the fibers is considered to additionally read upon the particle sizes recited in claims 6 and 7

Because paragraph [0030] (in its entirety) has already been relied upon by the Examiner, no new argument is seen to have been raised by this additional teaching (the above quoted excerpt is the sentence immediately after the WO document's disclosure regarding the length of the ceramic fibers).

With respect to Claims 9 and 10 under appeal, the Examiner notes that these claims refer to the employment of the metal substrate in *either* the form of an expansion cone or of an exhaust gas silencer. The WO document is seen to read upon the limitation “exhaust gas silencer”, as the document teaches an exhaust gas manifold structurally reading upon that instantly claimed coated metal substrate. Further, claim 10 recites limitations referring to the expansion cone, but does not require that the

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"substrate of claim 9" *be in the form of an expansion cone*. For this reason, claim 10 is also considered read upon by the WO document, as it depends from rejected claim 9.

The "catalyst body" disclosed by the WO document was noted by the Examiner not to solely read upon the "exhaust gas silencer". The "catalyst body" is provided *in addition to the catalyst added to the inner layer*. Paragraph [0053] of the WO document was relied upon by the Examiner for further teaching of the manifold, in which "the catalyst support body 30 begins the pollutant and noxious gas abatement process in the manifold 10 itself, prior to the exhaust gas reaching the catalytic converter." Note the last sentence of this paragraph: "The result is a manifold that efficiently and effectively minimizes heat loss from the exhaust gas flowing therethrough, while simultaneously initiating catalytic reaction of pollutants to environmentally benign species."

Minimizing heat loss from the exhaust gas—silencing it, in a sense—is thereby achieved by the exhaust manifold of the WO document.

For these reasons, Appellants' arguments are not persuasive, and the rejection of record is maintained.

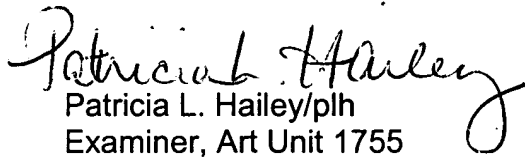
(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

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For the above reasons, it is believed that the rejections should be sustained.

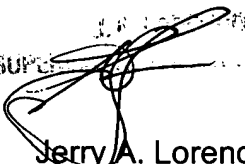
Respectfully submitted,


Patricia L. Hailey/plh
Examiner, Art Unit 1755
March 29, 2007

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